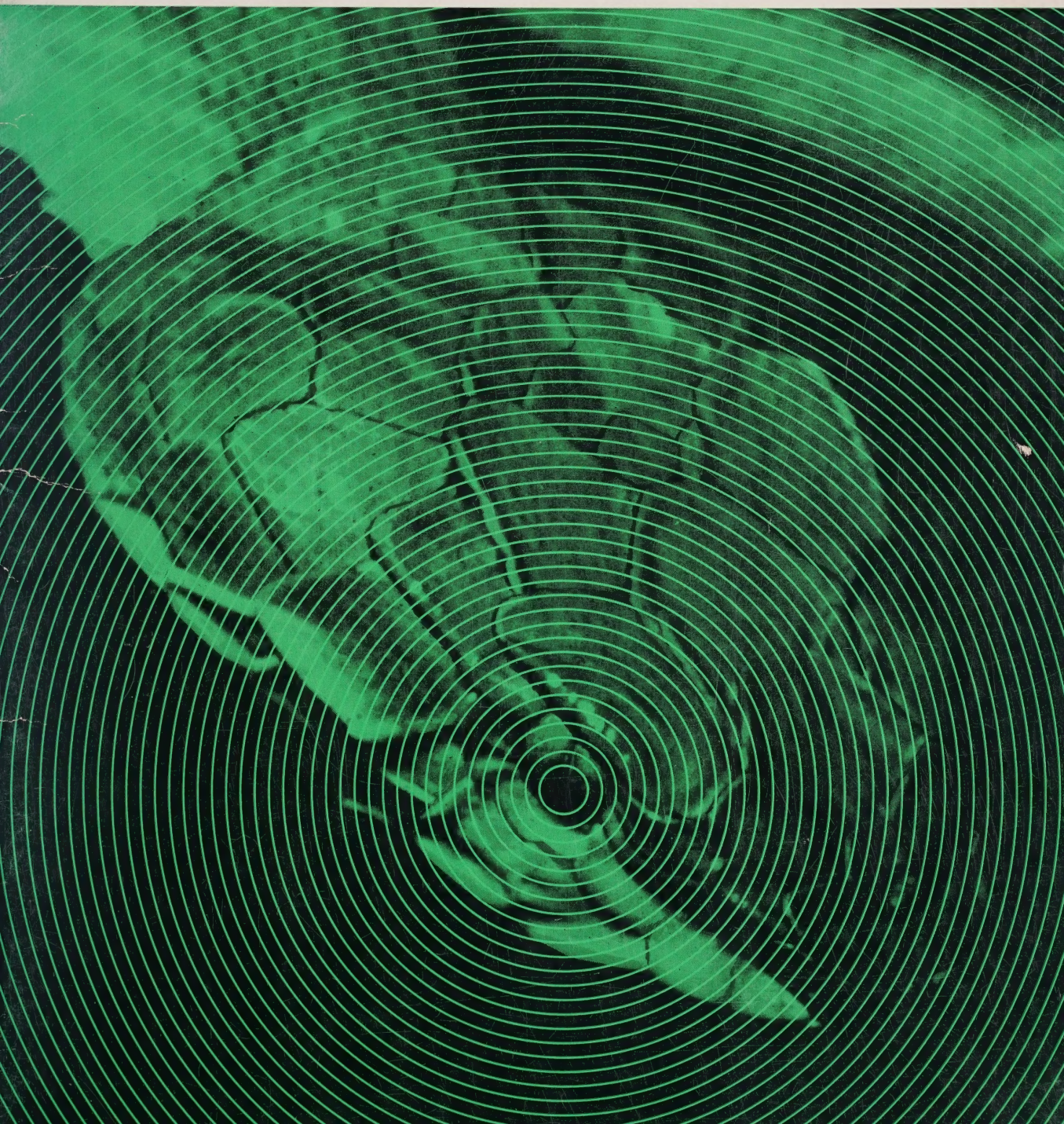


Spring 1968

Volume 1, Number 2

ROTUNDA

the bulletin of The Royal Ontario Museum



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The Cover:

Head of a Lancehead Viper that Terence Shortt abruptly encountered while in India. Incident is described in his article, "Charge to Expenses: One Tree-Watcher."

Photograph by Ario Gatti.

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*Fig. 1
Dotted line shows the ancient Silk Road,
now a modern paved highway*

*Fig. 7
Partially excavated stone tomb
revealing human (male?) burial.
Accompanying pottery and legs of beef
were grave offerings*



BESIDE THE SILK ROAD

by T. Cuyler Young, Jr.,

*Associate Curator-in-Charge,
West Asian Department*





Fig. 2
Test trenches carved into the eroded north face of Godin Tepe

One of the great trade routes of Asia passes through the central Zagros mountains of Iran. The Silk Road, as it is sometimes called, climbs east from Baghdad onto the Iranian plateau, slices through the sheered anticlinal folds of the Zagros, skirts the northern edge of the great central desert of Iran, crosses Afghanistan and continues east to China. Like a cork in a bottle the large mound of Godin Tepe, lying between the modern cities of Hamadan and Kermanshah, controls this road at a point in western Iran where it passes through a narrow gap in the mountains (fig. 1). Two field seasons of excavations at this site by the Iran Expedition of the Royal Ontario Museum, University of Toronto are now complete—excavations generously aided and encouraged by the Harvie Foundation and the Babylonian Collection of Yale University.

The mound itself rises some 30 metres above the northwest branch of the Gamas Ab River which has, in times of flood, eroded the north side of the site (fig. 2). Altogether, covering some 10 hectares, and with a record of almost five thousand years of roughly continuous occupation by man, Godin poses both a quantitative and a qualitative archaeological challenge to all who are interested in the history of Iran. Our excavations began in the autumn of 1965 when Louis Levine of the University of Pennsylvania and I set about the problem of sounding the site from summit to virgin soil down

the steep, river-cut, north face. The early winter rains came ahead of schedule that year, and a cold wind blew off the high mountains, cutting through our soggy clothing and nipping our fingers so that at times just trying to hold a trowel, let alone use it, required an act of will. With the help of gloves and warming sessions in a nearby mud tea house the work got done, and we returned with the news that Godin was indeed worth a larger, sustained effort at excavation. Our stratigraphic sounding revealed seven major periods of occupation at the site. The lowest, resting on virgin soil, might properly be called "Late Neolithic" and dates to c. 5500–5000 B.C. The most recent pre-Islamic level dates to the seventh-sixth centuries B.C., or the Median Period. Between these two extremes are deep deposits of the second and fifth millennia B.C., separated by shallower but no less important occupations of the two intervening millennia. Properly excavated and published, there seems little doubt that Godin Tepe will add to the Museum's tradition as a scholarly institution concerned with the record of man throughout the ages.

In the summer of 1967 we returned to Godin for three months of field work with an enlarged staff and budget. Richard Ellis of Yale University acted as Associate Director, Louis Levine was again Assistant Director, Mrs. Ellis was our registrar, and the site supervisors were Mr. and Mrs. Christopher Hamlin of the University of Pennsylvania, Irene

Winter of Columbia University and Timothy Colard of the University of Toronto. The Iranian Archaeological Service and the Ministry of Culture once again received us warmly and gave us their welcome assistance and fullest cooperation, without which the work could not have gone forward.

We established ourselves in the village of Godin hard by the mound in a comfortable mud brick house rented from a local worthy, Sayyid Morteza. Shortly after work at the site began, the routine of village life was crudely interrupted by a "murder most foul." One of our pickmen, defending his father's property from thieves in the night, was shot and killed. Excavation was, of course, suspended for two days in honour of the dead and in order

that the expedition might be properly represented at the interment and at memorial services in the local mosque. Violent death in our midst cast a mood of gloom over villagers and visitors alike for several days. Shortly, however, the police took up the problem of the thieves,

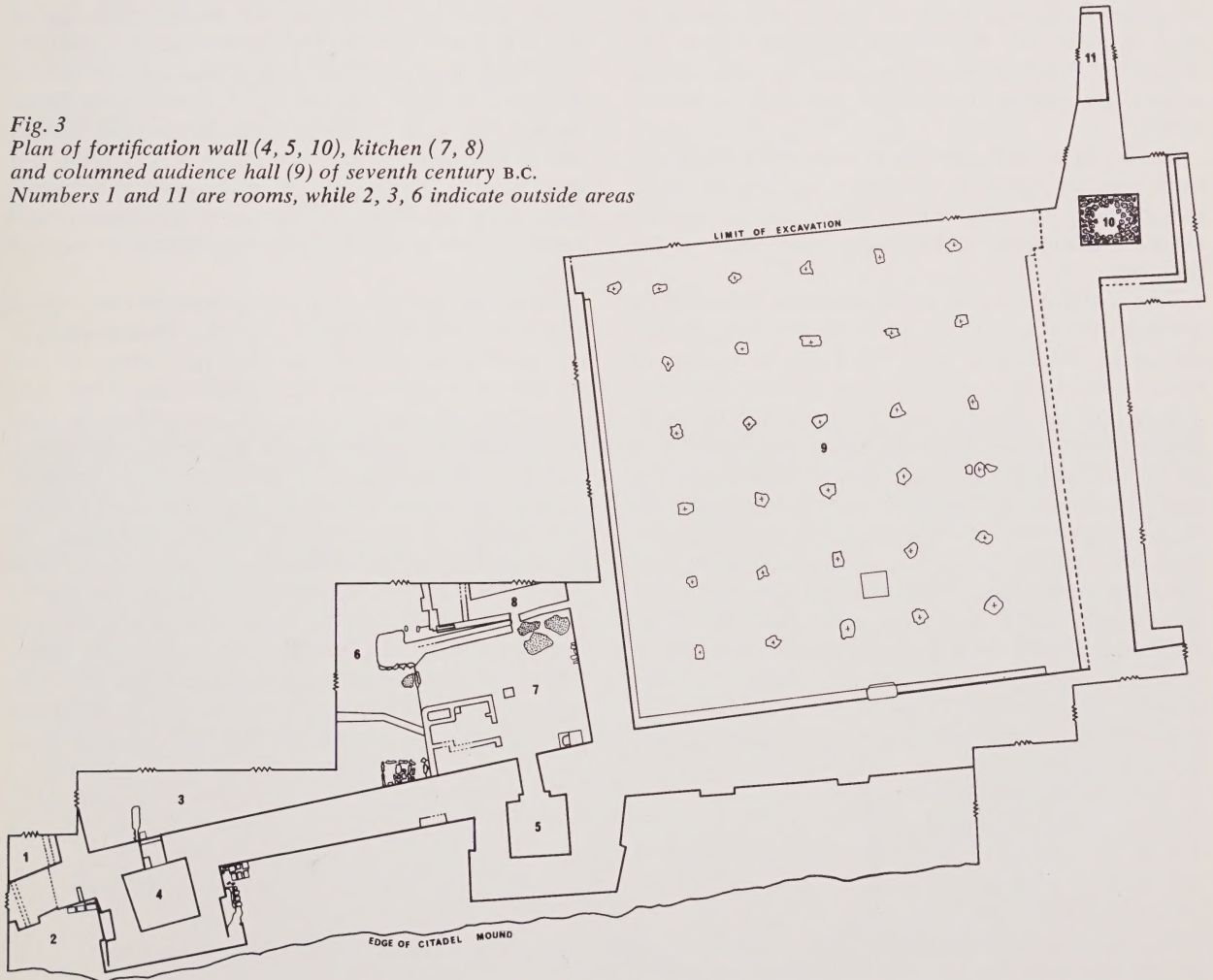
"... and they, since they

were not the one dead, turned to their affairs."

Before too long the keenness of the staff, the kindness of our hosts—official and unofficial—and, this time, excellent weather, combined with the archaeological excitement inherent in a mound like Godin Tepe to assure not only a productive but a pleasant summer's excavation.

In contrast to the 1965 season, one of vertical

Fig. 3
Plan of fortification wall (4, 5, 10), kitchen (7, 8)
and columned audience hall (9) of seventh century B.C.
Numbers 1 and 11 are rooms, while 2, 3, 6 indicate outside areas



excavation in depth over a narrow area, the 1967 season was characterized by broad horizontal area excavations in an effort to recover architectural and artifactual remains. We have our basic stratigraphic skeleton in hand (though bones are no doubt missing and will be added in the future); now the problem is to put some flesh on the beast. A second strategic aim of the season was to locate if possible the cemetery of Period III (second millennium B.C.)¹ in order to recover data on the burial patterns of that culture and to find well-preserved objects. Unless a building is destroyed by violence so that its contents are preserved *in situ*, little in the way of complete objects can be expected from the excavation of structures. Fortunately ancient man thought that he could take it with him, and to find his grave is to find many of the objects which he used in daily life. Excavated buildings supply the immediate environment of the ancients; their graves supply the people themselves and their accoutrements.

In the time and with the resources available we were able to open up extensive remains of three major levels of architecture and excavate several simple inhumations and a large stone tomb in the cemetery.

The building cleared which dated to Period II or Median times was in many ways the special discovery of the season (fig. 3). Little is known of the seventh century B.C. in Iran, so any contribution to our knowledge constitutes a stride forward. What has thus far been revealed at Godin is a small fortification crowning the high point of the mound, marked by a massive mud brick wall from which project two towers (Areas 4 and 5, fig. 3). Both towers have been constructed on platforms of brick set right at the edge of the even then steep and eroded north face of the mound. The total effect of wall and towers hanging on the very rim of a 30-metre-high mound must have been considerable on anyone who passed below. Inside the fortification behind the westernmost tower are the

remains of a large kitchen and pantry (Areas 6, 7 and 8, fig. 3). Here grain storage bins, hearths and a large oven testify to the banquets once served in the great audience hall to the west (Area 9, fig. 3). This monumental room, some 24 metres wide and at least 28 metres long, is surrounded on three sides by walls fronted by brick benches on which sat visiting dignitaries or subjects of the local Median ruler who had business with their prince. Along the north wall of the hall, which is the inner face of the fortification wall, is a special "throne" seat where the prince himself no doubt sat, warming himself at the fire which blazed on the raised brick hearth in front of him. The roof of this huge room was supported by 31 wooden columns on roughly shaped stone bases, set in five rows of six columns each. The odd column, in the southeast corner of the hall, supported the roof beams where a particularly wide gap separated the corner column in the block of 30 from the east wall on which the beam rested. The ceiling was perhaps about eight metres above the floor, which was made of carefully laid mud plaster. The whole, in its original state, must have been an impressive forest of columns, calculated to deeply affect the foreign visitor or subject peasant.

Test excavations at other points on the upper surface of the site suggest that the seventh-century occupation is confined to the very crest of the mound as enclosed in this fortification. One suspects that future excavation will reveal that the area to the east of the kitchen is the private residence quarter and storage area of the palace. Little is known about the Median Period in Iranian history, but we do know that the Median Kingdom or Empire was a confederation of small local kingdoms gradually gathered together under the leadership of a particularly powerful royal line. It is very likely that here at Godin we have the royal palace of one of these local princes, who, given the strategic location of his castle and kingdom along the main road from Babylon onto the plateau, must

Fig. 5
Typical simple burial from late Period III. Leg joints of mutton were meant to sustain the deceased on his journey into the next world

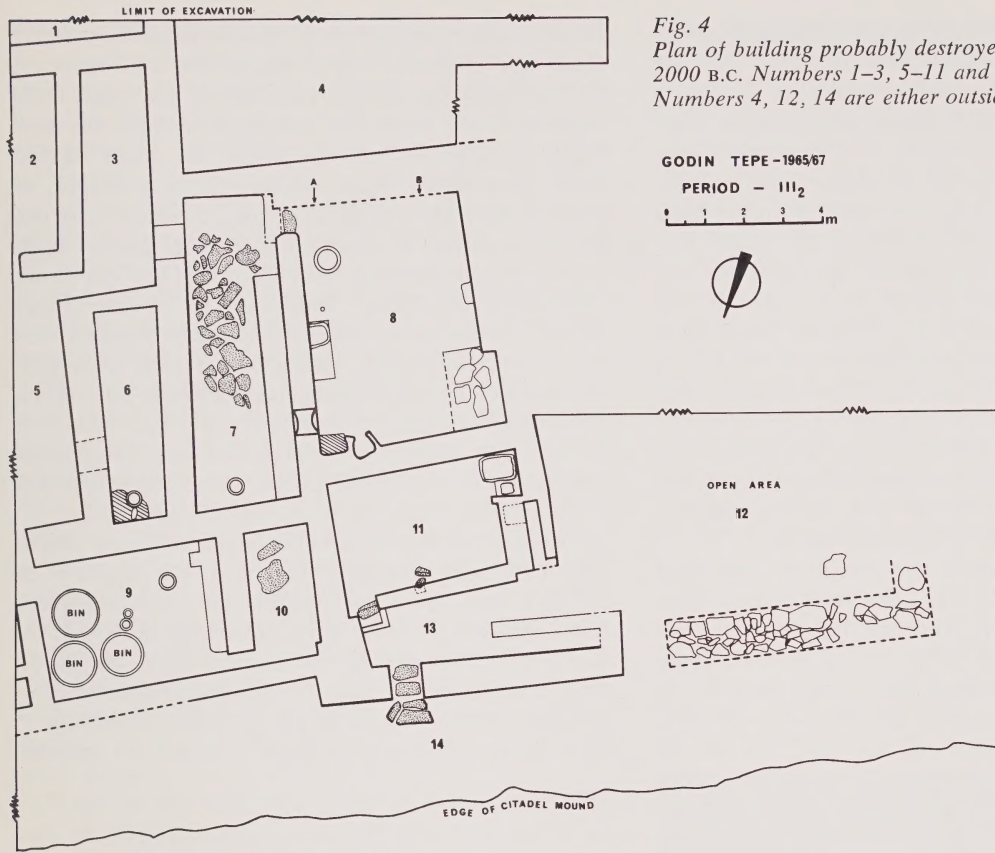


Fig. 4
Plan of building probably destroyed by earthquake about 2000 B.C. Numbers 1-3, 5-11 and 13 are rooms. Numbers 4, 12, 14 are either outside or open to the air



have been a fairly important figure in the confederation. The columned hall itself is firmly in the architectural tradition which reached its height in the later Achaemenid Period with the audience halls at Pasargadae and Persepolis of Cyrus the Great and Darius I. Although the ultimate origins of the form remain obscure, a link to the columned halls of Hasanlu further north dating to the early first millennium B.C. might reasonably be suggested.

A gap of unknown duration occurs in the sequence at Godin below the Median level. Perhaps the mound stood unoccupied for something like 500 years, for the structure below the seventh-century fortification, Level III₁, dates to c. 1200 B.C. All that remain of this building are the rather disordered and scrappy stone foundations of a house much destroyed by weather and the foundation trenches of the Period II structures above.

Two rather ephemeral occupations separated Level III₁ from Level III₂, the next major construction down (fig. 4). Here we dug our way into a building which had been violently destroyed. Large blocks of articulated brick work had fallen from the walls, one entire section of wall had sheared off at the base and slid forward off its

foundations, deep layers of debris including roofing reeds and plaster covered the floors, and on some of the walls the fragile remains of the reed mats that had once hung like tapestries against the mud brick were preserved. In places the stubs of the walls themselves were preserved to a height of almost two metres; in one case so high that we found an intact window which may originally have been used for passing food from the kitchen to an eating hall (and dirty dishes in the reverse direction?). Masses of smashed pottery littered the floors. Several hearths and a bread oven were well preserved; in one hearth the andirons on which cooking pots once sat were still in place. Godin is in an area subject to much tectonic movement today, and a reasonable guess is that the structures of Level III₂ were destroyed in an earthquake.

Architecturally, it is difficult to say just where this particular building fits into the history of western Iran, for it is certainly the most complete if not the only building in its time range (c. 14/1500 B.C.?) yet excavated in the Zagros. More might be said if we had been able to open the entire building and had some clue as to its function. Certainly it was a large structure, perhaps of a size to warrant



Fig. 6
Large, unopened stone tomb of late Period III

the adjective monumental. Thus far all signs point to a secular function, perhaps that of a very large private house or palazzo. In broad terms the style is rather Mesopotamian, with long narrow rooms along the side of slightly larger and more rectangular rooms. In any case it would seem that there was, not surprisingly, a considerable change in local architectural traditions between the third quarter of the second millennium and the seventh century B.C. In part the 1969 excavations will be directed toward a broader clearance of this level, and we hope that much which is now enigmatic will become clear.

Time permitted only a test sampling of the next level down in the second millennium deposit, revealing three poorly preserved rooms of another building. Under the stone foundations of what was most probably an outer wall of this structure was a rather curious foundation deposit: several sheep or goat burials with numerous tiny crude pottery vessels which had apparently been made specially for this function. At least it is difficult to imagine them as having ever been useful as real containers. The practice of placing such deposits under the walls of buildings is well documented in the literature of the ancient Near East, but not often encountered in excavation.

Work in the cemetery, slow at first, was in the end amply rewarded. Several simple inhumations of a type well known for the area and period were cleared (fig. 5). Most of these burials were contemporary with the structures of Levels III₁ and III₂ on the main mound, but two were from the early Iron Age. Since this period is not represented by any occupation on the mound as far as we know, one imagines two travellers passing the unoccupied mound in the last century of the second millennium B.C. taking ill on the road, dying, and being buried by their companions.

Just before work was to be brought to a halt in the cemetery in order to concentrate effort on the main mound, the corner of a large stone structure appeared on one side of the cut. Enough was revealed to suggest that an extension south to uncover the whole of this structure might repay the effort. Eventually there emerged from the ground a large stone tomb about three metres wide and three and a half metres long with a partially gabled roof and a complete horse burial along one side (fig. 6). The roof had collapsed in such a fashion that it was not clear whether the tomb had been

rifled in antiquity or was intact. Fortunately, the contents proved to be undisturbed except for one group of pottery smashed by the collapsed roof. Inside were two bodies, one apparently male, the other female (on the basis of the grave goods). The male skeleton was neatly laid in the southwest corner of the stone enclosure, lying on his side in a flexed position. Over and around him was a grave offering of plain and painted pots and the remains of legs of beef and mutton (fig. 7). The lady, draped rather languorously across the open front of the tomb and well bedecked with jewelry, was treated to her own bit of mutton and more than matched her companion in quality if not quantity of pots. One of the finer vessels buried with her was a unique find of the season (fig. 8). There is no stratigraphic or constructional evidence that both bodies were not buried together. Did the man and

Fig. 8

Tripod pottery vessel found with second (female?) burial in the stone tomb



Fig. 9

Pottery from a burial on the citadel mound features purplish-black paint on cream-slipped ground

Fig. 10

Painted pottery of Godin Period III. Blackish-brown paint on either a cream- or red-slipped ground

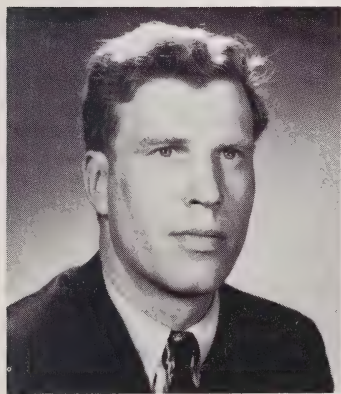


woman fortuitously die at the same moment? Certainly one doubts that the horse dropped dead just as he was needed to carry his master into the next world, but the fate of a horse may not have been the fate of a wife (or husband, depending on your prejudices and the social structure of the culture involved).

Small finds from the fortification, kitchen and columned hall of Period II were scant and consisted mostly of potsherds. Thanks to the graves dating to the late second millennium and the earthquake which destroyed Level III₂ we know more about the artifact content of Period III. Late intramural graves on the main mound, stratigraphically between Level III₁ and III₂, yielded painted pottery of a style no less artistically dramatic than it is important archaeologically (fig. 9). Previously known in this area from Period II at Tepe Giyan, this pottery perhaps betrays a foreign influence on the central Zagros region stemming either from

further north in the mountains or from northern Mesopotamia. At Godin it appears to be stratigraphically mixed with a painted pottery more common in Period III and related to a ceramic style of decoration found in Period III at Tepe Giyan (fig. 10). Here, one suspects, is the handiwork of the indigenous craftsman.

It is hardly surprising to find at Godin evidence for a mixture of local and foreign cultural elements. One suspects that such may prove to be the case with each major cultural period as we progress downward with excavation in future field seasons. Astride a main artery linking the lowland Near East with the Iranian plateau and points further east, Godin must always have been open to cultural (if not political and military) influences from beyond its immediate horizon. Digging beside the Silk Road will never yield silk, but it will give us instead much evidence on Iranian history of a rougher and more durable weave.



T. Cuyler Young, Jr., author of *Beside the Silk Road*, was born in Resht, Iran, in 1934 and educated at Princeton (B.A. 1956) and the University of Pennsylvania (Ph.D. 1963). Dr. Young joined the ROM in 1963, and is Associate Curator-in-Charge, West Asian Department. Before his dig at Godin Tepe in Iran, he was with the Hasanlu project in Iran 1958–1961, and 1961–63; and in Mukran in Pakistan during the fall of 1960. He now is lecturing at Yale University for five months, and expects to return to Godin Tepe in the summer of 1969.

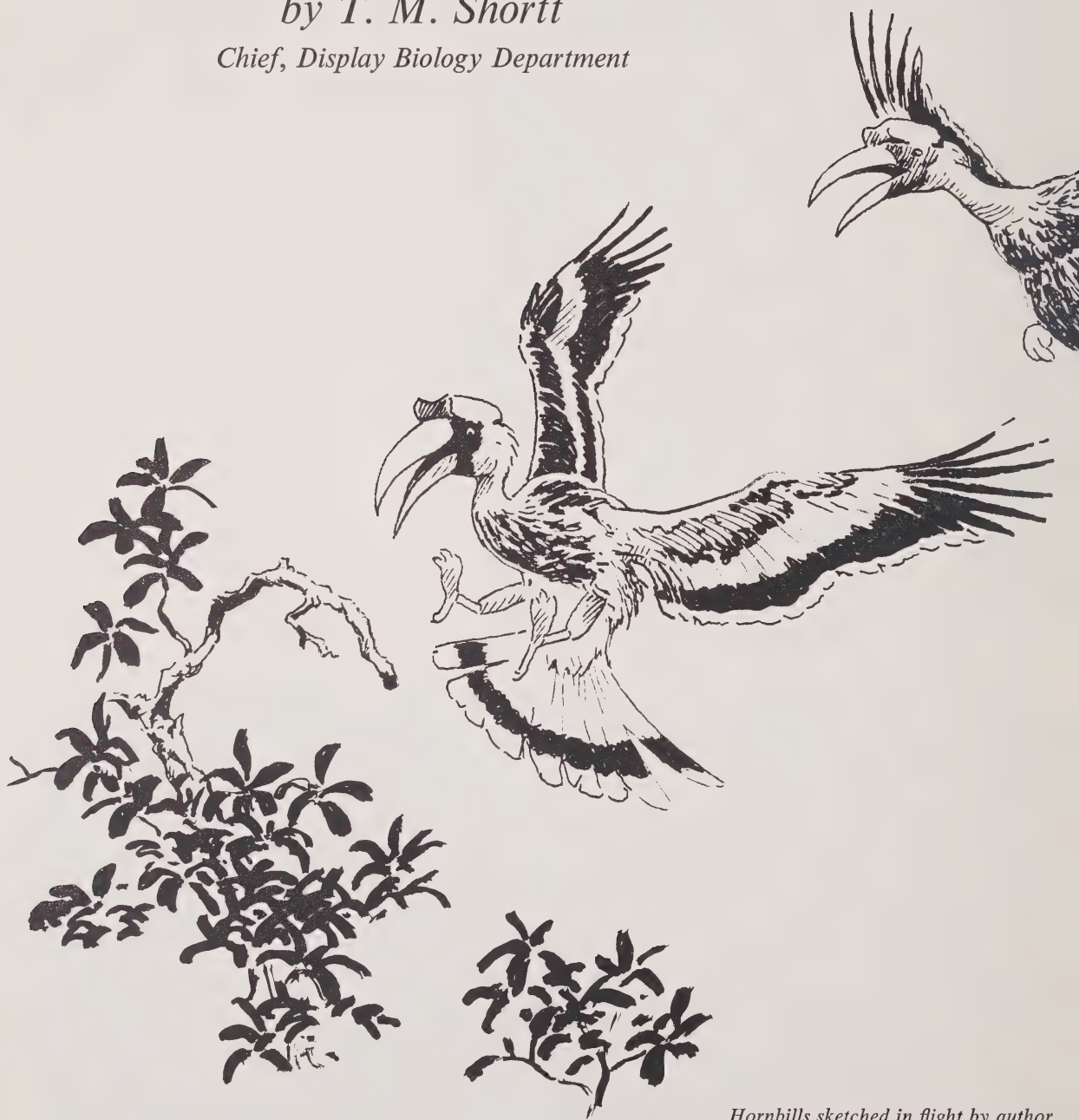
NOTES

1. *Periods at Godin are numbered I through VII starting with the most recent. Level III₁ designates the most recent construction level within Period III, etc.*

Charge to expenses: One tree-

by T. M. Shortt

Chief, Display Biology Department



Hornbills sketched in flight by author

watcher



At the end of May, Terence Shortt, Chief of the ROM Display Biology department, and another artist in his department, Paul Geraghty, leave for three months in Africa. Their first stop will be in the Bwamba Forest at the foot of Mount Ruwenzori in western Uganda. There they will take photographs, do sketches and paintings, and collect specimens of the vegetation and wildlife for an African rain forest diorama they later will create at the ROM.

Then Mr. Shortt and Mr. Geraghty head for the grasslands of the National Parks in Kenya to make studies of lions, giraffes, zebras, antelopes and other creatures. This preparation will be for a diorama of the African grassland and its fauna. A specimen that will go into the diorama will be "Sultan," one of the finest examples of an African lion.

Sultan, once a famous resident of the New York City Zoo, was presented to the Museum for mounting after he died.

Leader of the ROM African safari will be John G. Williams, director of Wildlife Advisory and Research Service Limited. As former curator and field collector for the Coryndon Museum, now the Nairobi National Museum, he is familiar with museum field-collecting problems.

How Mr. Shortt copes with problems, both expected and unexpected, is indicated in the following article recalling his collecting expedition to India for an earlier Museum diorama.

Dawn in the jungle, torrential rain—and a Daliesque scene: a ghost-like tree, its trunk encased in a glistening smooth coat of creamy-white latex and bearing, 18 feet above the ground, broad, overlapping sheets of polyethylene plastic which extend in every direction and are guyed to adjacent trees. Beneath this translucent marquee sits a tiny man with dark brown skin, clad in a high-crowned white turban, a very large white shirt, and a white breechclout, and holding a huge, black, furled umbrella. The tiny man has been hired by the ROM as a tree watcher!

The place was the heart of a dense jungle in south India and the man, a Tamil teabush pruner, was to protect the hardening latex mould of an Indian Ironwood tree from the researches of a troop of monkeys, Nilgiri Langurs. The polyethylene “marquee” had been set up to shield the mould from the torrential monsoon rains.

The episode of the tree watcher is only one of the strange and occasionally almost ludicrous adventures in which members of ROM staff sometimes find themselves involved. It occurred on an expedition sent to collect material for the ROM’s new series of diorama exhibits. A diorama is a display in which a three-dimensional foreground is set against a painted or photographic background to give the impression of a realistic scene. Most great museums have some dioramas.

The ROM series, when completed, will depict the earth’s major biomes—grasslands, tundra, forests, deserts—and the kinds of plants and animals that live in them. The three now completed illustrate a winter scene on Ellesmere Island in the Canadian Arctic, the volcanic Galapagos Islands with their unique vegetation and animals, and the edge of a monsoon or hill forest in the tea country of south India.

In the Indian diorama are three life-size tree trunks, numerous vines and shrubs, many birds and mammals, a snake and a selection of beetles, butterflies, snails and other invertebrates. To obtain the material for this diorama, the late Ario Gatti and I went halfway round the world in October 1963, to the Anamallais (Elephant Hills), a range in the Western Ghats in Madras State of South India. We were to select a site, record it in paintings and colour film, and collect, preserve or reproduce the great diversity of plants and animals that would be required for the diorama. Our trip and the resulting



“Buttering” ironwood with latex

diorama were made possible by the generosity of Brooke Bond Canada Limited.

Some of the problems facing us we anticipated—some we did not. Among the predictable problems was the difficulty of finding a suitable site not too far from transportation, yet relatively untouched—not easy to do in densely populated India. After considerable reconnaissance we located a fine patch of jungle (a *shola*) not too far from our headquarters, the Injipara Tea Estate near Valparai. The trees were big and tall, there was a dense undergrowth of thorny shrubs and lianas, and the floor of the forest was covered by Cardemom, ferns and other plants.

The next task was to locate a suitable area within the *shola* in which to set up the “field lab.” The



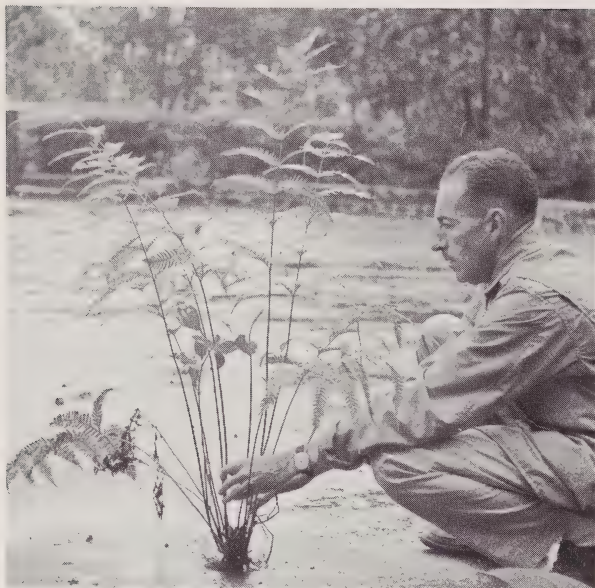
Putting finishing touches to diorama at the ROM

natural clearing made in high woods by the fall of a giant tree provides an excellent observation area and working space. In our *shola*, just such a giant had crashed at the top of a broad ridge. With only a day's work we cleared away the debris and found space and light, and by roughly levelling the top of the horizontal trunk we had a fine ready-made lab "table."

We soon got used to the gnawing sounds of the wood-rasps of the jungle carpenters—beetle larvae busily engaged in the monumental task of reducing the heartwood of the big trunk to sawdust. The odour caused by the jungle chemists took a little longer to get accustomed to. Moulds, fungi and bacteria, working on the cambium layer, produced a sweetish smell of ferment reminiscent of stale beer.

The surrounding forest contained the species of trees and vines and animals that we wanted. So for a month we made daily trips to the jungle with the necessary supplies: bags of jute, jars of formalin, gallon cans of latex, bundles of plastic bags, pails of water and an 18-foot ladder. All had to be carried on our backs along the crude track that we had hacked up a steep ridge from the nearest point at which the car could be parked, a mile away.

Wherever I go on museum field work, I am told that the weather is "unusual." India was no exception. One of the unpredictable contingencies was an abnormally prolonged south-east monsoon season. During the first week at the jungle "lab" our work was hampered by heavy rain. We began to understand why the cry of the Hawk-Cuckoo, repeated



Collecting fern for diorama

ad nauseam in the rains, has given it the vernacular name of “Brain-fever bird.” And the wet woods brought out the blood-sucking jungle land leeches, hordes of which travelled the forest floor like inchworms and attacked us with fine enthusiasm.

The high humidity prevented work on our major projects, making moulds of tree trunks and rocks, since the moulding material would not have “set up.” Instead, we hunted each day through the dripping forest to collect and preserve animal specimens. Birds of strange form and colourful plumage abounded. There were Goldenfronted Leaf Birds, as green as leaves and betrayed only by their golden crowns and oriole-like song. Clumsy Great Hornbills, as big as turkeys, flopped heavily through the forest, a whole flock intent on alighting on a branch with barely space for one, squawking raucously, tumbling and tottering in farcical manner. White-breasted Kingfishers, oddly out of place in the riverless *shola*, pounced on lizards rather than fish. Hill Mynahs, the “talking birds” of the pet shops, were a nuisance, spotting us and by their vituperative language warning all other creatures away.

Our collecting was complicated by a condition imposed by the Zoological Survey of India: for

every specimen taken for our work, we had to obtain a duplicate for the National Collection. It is not always easy to locate, stalk and bring down even the commonest species in the thorn-bedecked and vine-entangled jungle. Securing a second specimen, such as the wild and wary Giant Squirrel or Grey Jungle-fowl, was time-consuming and exhausting.

Collecting specimens often offers diverting incidents. Once I shot a jet-black Racquet-tailed Drongo, which plunged down into the dense growth of Cardemom bushes in a ravine bottom. It was impossible to recover the bird without first clearing the thick undergrowth. I set about levelling a fairly large area with a heavy tea-pruning knife, and was about to fell a small sapling when I chanced to glance up. There was a Lancehead Viper coiled in a crotch directly above, not three feet from my head. A stroke of the knife would have brought the venomous reptile tumbling on top of me. Instead, it was duly photographed and added to our collections—and a few moments later I found the dead Drongo.

We almost despaired of accomplishing our task in the allotted time—or before we were bled white by leeches—when we awakened one morning to a cloudless sky. As the featured trees for our exhibit, we had chosen a Teak, a Jack-fruit and an Indian Ironwood, *Messua ferrea*.

To bring back the real thing would have presented a logistics proposition beyond either our physical or fiscal resources. Also, the importing of 40 feet of assorted raw foreign lumber with all its attendant zoological and botanical tenants would have resulted, I’m sure, in a somewhat reluctant if not downright truculent attitude from Canada Customs Quarantine Service.

On earlier expeditions we had devised a method of reproducing trees and large boulders by taking rubber moulds (negative impressions) of them in the field. On our return to the studio in the ROM, latex casts (positive impressions) are taken from the moulds. The latex casts then are wrapped around prefabricated forms of the exact size and shape of the original tree or rock, and coloured from reference sketches and coloured photographs.

So on our first sunny morning, my Tamil helper, Durosami, and I began to “butter” the latex onto the big Ironwood trunk with our hands. The rubber paste was worked into every crack and crevice of



Preparing skin of white-breasted Kingfisher at temporary jungle laboratory

the bark, from the exposed roots to a height of 15 feet.

Just as we completed the job we heard the ominous rumble of thunder. The monsoon was not through with us yet! In humid weather, latex requires about three days to “mature.” A heavy rain would wash it off, wasting our work and, perhaps worse still, ten gallons of the Chief Accountant’s latex.

We scrambled and floundered down the rude trail to the car, a mile away. The trunk of the car held many yards of polyethylene sheeting for just such an eventuality. This we tied up in bundles as heavy as we could carry. Little 90-pound Durosami matched my burden and I believe was less fatigued when we finally arrived back at the tree.

Even as we puffed to a halt, the rain began. Quickly we unfolded the long plastic streamers. One end of each streamer was securely wrapped about the tree above the latex; the free end was was firmly guyed by two ropes to an adjacent tree

Terence Shortt hunting specimens



limb or trunk. When the task was completed, we felt our mould was safe from all but a gale-driven rain.

But while we sat under the shelter of our improvised tent, having a relaxing smoke, I realized that our troubles were not over. A band of Nilgiri Langurs—big, skinny, black monkeys with ridiculous long blond “hippie” hairdos—began to take great interest in our singular and entertaining structure. As soon as we left, they would surely descend to investigate.

My concern was very nearly—but not quite—as much for the monkeys as for my mould. I could envision Langurs with hands, faces and fur clotted with sticky latex, which is almost impossible to remove from fabric—or hair—without using its specific solvent.

I decided to leave Durosami on guard at the tree while I went to the estate house to eat, and then I would return to take over guard duty for the night. It was an unattractive prospect. I had several specimens in need of attention and it was raining hard. Anyhow, I reflected, fighting off leeches would keep me from falling asleep.

At the estate house, I explained the situation to the estate manager, Roger Hands. Roger laughed. “There’s no need for you to stay out there,” he said. “You can hire a tree watcher at the tea factory for a few rupees.”

And indeed a man was found who was not only willing but eager to accept the assignment. I took him back and equipped him with some food and tea and the enormous black umbrella. He spoke only Tamil, but by sketches and gestures I conveyed what was required of him.

Next morning I found him dry, comfortable and cheerful, and the mould intact. For three nights he guarded our tree with zeal and loyalty. Once he was surrounded by monkeys and some of the big males approached to within 10 feet. But our valiant tree watcher put them to flight by pointing his gigantic “brolly” at them and flipping it open.

On the third day we made a vertical cut down one side of the cured latex and simply peeled it off in one piece. We then rubbed it with talc to keep it from sticking to itself, rolled it up and tied it into a relatively small, neat cylinder. In subsequent days we did the same with a Teak and a Jack-fruit tree. All three moulds fitted into a tea chest for shipment home. The technique enabled us to bring

to Toronto the equivalent, for exhibit purposes, of three 15-foot lengths of Indian trees in a 2½-foot square box—and there was no objection from the Quarantine Service.

While our moulds were drying, we gathered the debris to go on the floor of our exhibit. Dead leaves, twigs and soil samples were sun-dried, fumigated and packed; green leaves and whole plants were collected and preserved in 4% formaldehyde. Formaldehyde fixes the tissues, but leaves will hold their shape only while they are immersed in it. Once back in the lab, the leaves are rinsed in cold water and then immersed in a solution of roughly 50% glycerin, 25% acetone and 25% alcohol, with a dash of glacial acetic acid to further harden leaf tissues and a pinch of carbolic crystals to discourage the formation of moulds. After two weeks to a month the leaf cells, impregnated with glycerin and preserved and hardened by the other chemicals, are removed from the bath and sponged clean. They have lost their colour but remain pliable and plump, resembling leaves made of leather. A coating of acrylic latex paint, the colour carefully matched with field sketches, completes the process.

When birds and mammals are collected, the colours of the naked parts (bill, eye, feet, nose, etc.) are carefully recorded. Plastic impressions are made of such things as the comb and wattles of jungle fowl, for these parts shrivel when dried and must be replaced by latex casts. The specimens are then carefully skinned and the skins are treated with

common pickling salt. The bodies are also pickled to serve as guides in making the artificial “body” for taxidermy back at the Museum.

Months later each salted skin is thoroughly washed and relaxed in lukewarm soapy water—the same treatment that one would give a good cashmere sweater. After a dehydrating rinse in carbon tetrachloride or commercial “dry-cleaner,” the skin is bounced about in clean, warm hardwood sawdust until the fur or feathers are dry. The sawdust is blown off with compressed air and the clean, fluffy specimen is ready for the insertion of wires into wings, legs and neck. It is then stitched onto an excelsior or balsa-wood form patterned from the preserved, skinned body of the animal. Artificial eyes are inserted and the animal is gently modelled into the desired posture and left to dry before the naked parts are coloured.

Our field trip to India kept us away from the ROM for ten weeks. We returned with ten boxes filled with carefully selected, sketched or photographed specimens labelled with appropriate documentations. Then it took almost 12 months of work to prepare the Indian diorama at the Museum.

Some may question whether such devotion to accuracy is worth the trouble involved. But I believe museums must enjoy the confidence and trust of the public. The efforts of the curator and display artist are to make the word “museum” a synonym for truth. And I like to think that, after visiting the ROM, people do know the truth.



Terence Michael Shortt, who recalls his field trip to India in *Charge to Expenses: One Tree-Watcher*, has been on at least two dozen collecting expeditions during his Museum career. Born in Winnipeg in 1910, he came “east, young man” to join the ROM as assistant to L. L. Snyder who was in charge of Galleries design. Mr. Shortt was appointed artist-ornithologist in 1936 and has been Chief of Life Sciences Display since 1948. He has been widely published as an author, co-author and illustrator. In 1951 his series of ten paintings for Carling Breweries Limited scored the highest readership ever recorded by polls in Canada and won a “Best of Industry Award” of the Direct Mail Advertising Association.

Spotlight

Jensen Silver has set the standard for silver designs for more than sixty years and those who visit the ROM between April 23 and June 2 will be able to see why. On display in Exhibition Hall will be some 300 pieces of silverware that trace the development of the Danish firm's work since it was founded by Georg Jensen in 1904. The exhibition was organized in 1966 by the company to mark the 100th anniversary of Georg Jensen's birth and it since has been shown in London, England, several cities in Australia, and in Philadelphia.

Jensen apprenticed as a silversmith but he later turned to sculpture. Only at the age of 38, to augment his somewhat precarious income, did he return to his original craft and open his first silversmithy. He began by designing silver jewelry, set with coloured stones and semi-precious gems, that was admired by experts and critics. His early silverware designs showed the influence of *L'art nouveau* in their ornamentation: clusters of grapes, garlands and foliage. But his style soon took a clear and more refined form.

In 1906, Jensen was joined by Johan Rohde, a designer of classical purity in whose work detail was at once sensitive and restrained. Together, they created a new tradition of silver design that relied on line and form, rather than on heavy ornamentation, to bring out the beauty of the metal.

Georg Jensen and Rohde both died in 1935 and in the same year Count Sigvard Bernadotte, a name related to the royal families of Sweden and Denmark, joined the firm. Bernadotte has been an

outstanding designer for Jensen for more than 30 years and has helped maintain the firm's strict standard of superb craftsmanship. Since 1945, Jensen designs, many commissioned from leading Scandinavian artists, have continued to win awards. The artistic manager of the firm now is Søren Georg Jensen, a son, who as a silversmith and sculptor has had a wide influence on a generation of Danish artists.

When Georg Jensen died, the Times of London said in an obituary that his firm's silver may be considered antiques of the future. Private collectors and museums in many parts of the world would confirm that judgment.

Renovations to the North Gallery of the Sigmund Samuel Canadiana Building will be completed this Spring. For three months, carpenters, electricians and other craftsmen have been busy preparing new display areas for many of the finest items in the Canadian collection.

Part of the Gallery has been divided into six permanent room vignettes. Each room will be appropriately decorated to show the furnishings and crafts of a certain period and region of Canada. These will include 18th century New France and Quebec; the 19th century Maritimes; and Loyalist and 19th century Ontario.

Other space in the renovated Gallery is for temporary exhibits. One of the first exhibits will be of 18th and early 19th century Canadian silver, mostly from Quebec. It will include items created by such silversmiths as Arnaldi and Amiot.

Another of the temporary displays will concern

Georg Jensen at work in early years of his silversmithy.



Bowl designed in 1915 by Georg Jensen.



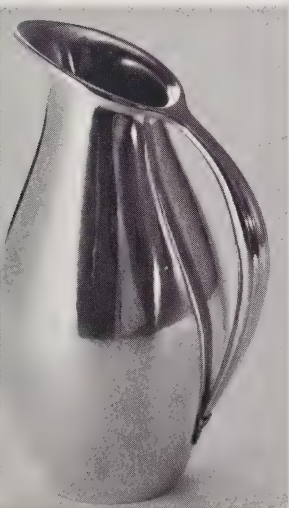
the fur trade in Canada. It will feature trade goods, such as axes, muskets and beads, and paintings, sketches and watercolours depicting the life and other aspects of the trade.

The temporary displays will not be restricted to historical exhibits. Plans are being made to show some of the finest work produced by modern Canadian craftsmen.

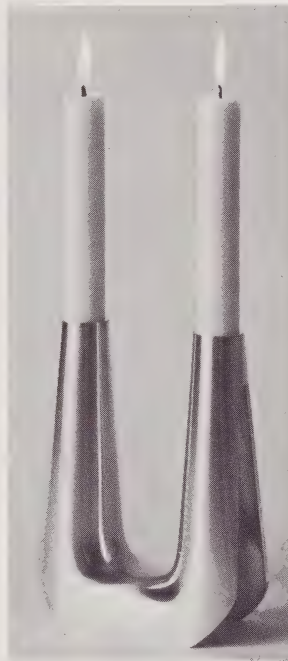
The Reta Howard Weston Room, recently installed in the Museum's English Galleries, originally was part of an 18th century city home in England. It is the gift of W. Garfield Weston in memory of his wife.

The installation at the ROM is the second time the panelled library has been dismantled and reassembled. Many years ago the fine carved panelling and the hardwood floor, the fireplace, the shelves, doors and window frames were removed from the house in England and installed in a Toronto home. Later the Toronto house was bought by Mr. Weston and the library became a favorite room of his wife. When the house was sold for a school, Mr. Weston offered the library to the Museum.

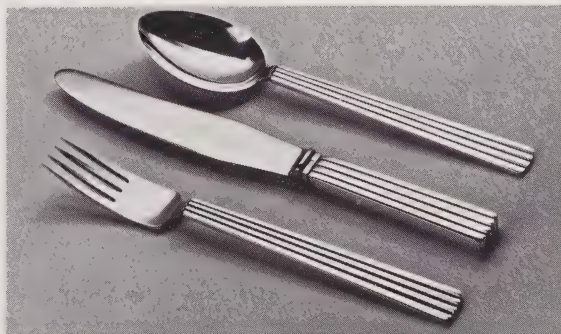
The library fills a gap in the ROM series of period rooms. It shows the stage in the history of English interiors when the natural accumulation of *objets d'art* by inheritance was gradually changing to an active policy of collecting fine furniture, books, silver and pottery. The late 17th and 18th century furniture in the room is part of the Weston family gift.



Johan Rohde designed this pitcher for Jensen in 1920.



Candle holder designed in 1963 by Søren Georg Jensen.



Early designs continue in production, including cutlery created by Count Bernadotte in 1930.





Portrait of a Palaeontologist

by C. S. Churcher

*Research Associate,
Vertebrate Palaeontology Department*

Palaeontology is defined as the study of extinct life forms, but the palaeontologist sometimes has his activities spiced by chance encounters with rather vivid forms of existing life.

Once I was visiting a large South American city with a good university and museum but few hotels. Seeking a room for the week I expected to be there, I tried what seemed to be a conveniently located hostelry. In hobbling Spanish, I explained my need. Guardedly, I was inspected by a portly man and two middle-aged women. Only when I added: "I am a professor visiting the university," did they reluctantly agree to rent me a room.

*The author uses a putty-knife to extract a fossil Equus rib
from Mitchell Bluff on the South Saskatchewan River*

The next day I realized why they had been reluctant. I emerged from my room into a hallway lined with bottles. That evening, when I returned, women were parading on every floor. The place was a brothel.

However, when it became apparent that I was not a customer, the management and permanent residents became quite friendly. For the rest of my stay, and I did stay, I was joined at breakfast by the proprietor, his family, and two or three of the girls.

Such unexpected situations are not usual in the life of a palaeontologist. Most of his time is spent digging for parts of long-dead animals or plants preserved in rock, then recording and studying his finds. Not that the professional palaeontologist has an exclusive claim to making scientific finds. Many were first stumbled upon by amateurs. One was the discovery, near the town of Taungs in the Cape Province of South Africa, of the skull of a "baboon." This skull was sent to Dr. E. Raymond Dart of the University of the Witwatersrand, Johannesburg, who recognized it as that of an extinct and hitherto undescribed variety of ape-man. It was many years before these South African ape-men or *Australopithecinae* were completely accepted at all levels of science. But the Taungs skull subsequently involved Drs. Robert Broom, John T. Robinson and Louis S. B. Leakey in elucidating many of the mysteries of our African heritage.

Such a fortunate find by an amateur contrasts with finds made by the professional palaeontologist. A search for a new site from which fossils may be extracted is often a matter of choosing likely-looking exposures of rock. A search within a known level of rock from which other fossils have already been obtained is usually an attempt to increase the knowledge of a particular form of life, either by finding parts of it not previously known or by finding evidence of it from a new locality.

All this requires "field work." The field worker abandons the comfortable towers of museums and universities, discards the material trappings of civilization, and takes to the backwoods, bush, veldt, or outback. Equipment ranges from delicate brushes, picks and chisels through plaster of Paris, sackcloth and hardening solutions, to crowbars, rock drills, saws, hoists and even mechanical excavators or blasting equipment, although the roughest methods are to be avoided whenever possible.

Working conditions are difficult and even dangerous. The fossil may be entombed on a steep slope where the rock or soil is not hidden by vegetation. The last few yards are frequently inaccessible except on foot, and are sometimes composed of sands or clays in which it is difficult to keep one's footing. Ants, scorpions, and other insects interfere with the field work. Occasionally snakes or even larger mammals such as rhinoceros, baboons, an inquisitive lion or bull may interrupt proceedings.



Tractor removes matrix containing scattered bones

The palaeontologist puts up with all these inconveniences not because he prefers them but because they are often in the same place as the fossils.

After the trouble of getting the fossil safely packed away and delivered into the laboratory where it can be studied, what can it tell us? The answer involves the larger story that includes all life and its environment.

The fossil is interpreted as the surviving part of a living organism from which all else has rotted or broken away. A tooth alone tells of the presence of the whole animal; the kind of tooth tells what sort of animal. If the tooth of a moose is recovered, it follows that under normal circumstances the landscape once probably suited the moose. Since we know the habits and preferred surroundings of living moose, we can infer that when the moose

tooth was deposited the climate and vegetation may well have resembled that of northern Ontario or wherever else moose naturally occur.

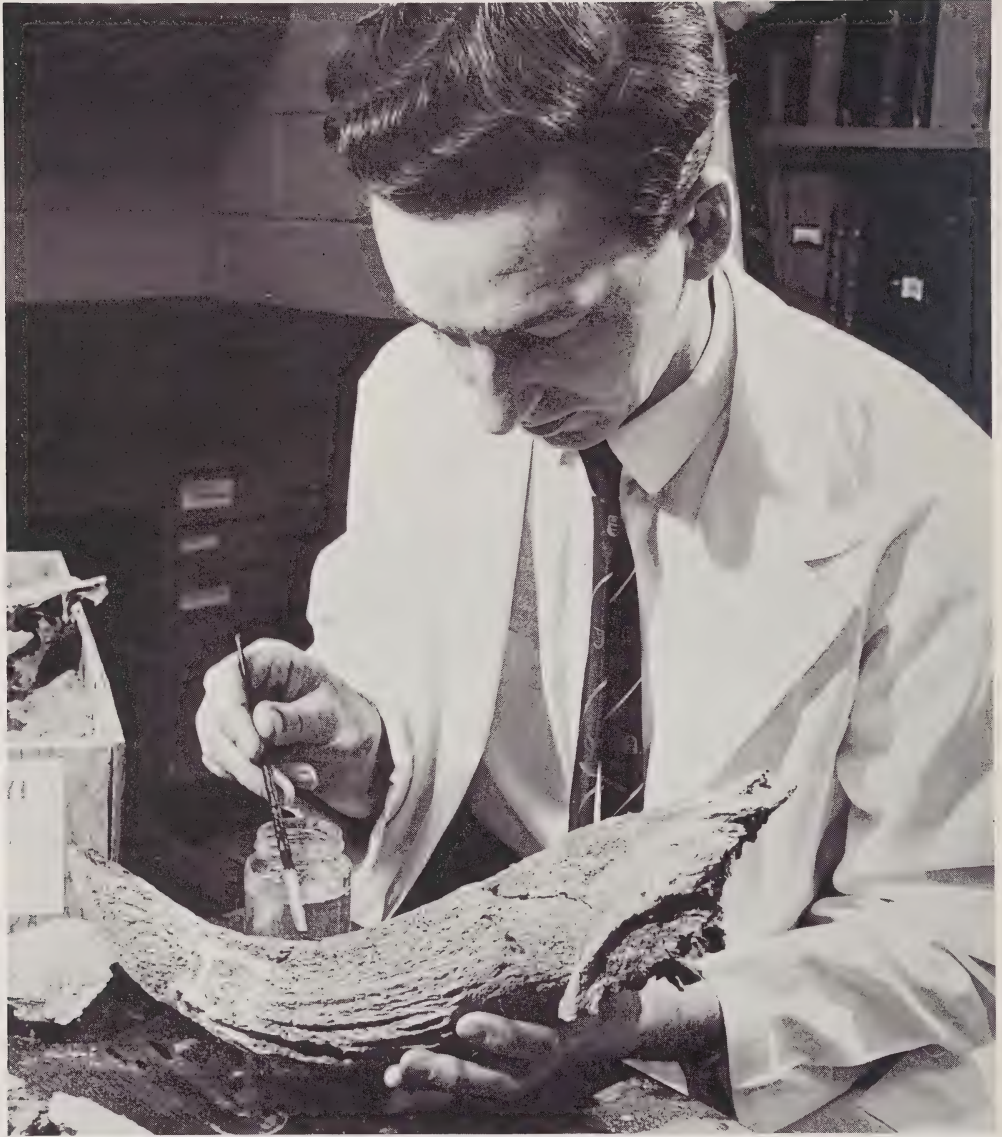
To comprehend animals whose whole kind has long been extinct requires more of their skeleton than just a tooth but, once a few fairly complete skeletons are known, we can follow much the same procedure. The only difficulty is in interpreting the skeleton of the animal as a functional organism. We must draw on our understanding of similarly constructed or proportioned living creatures and attempt from these bases to construct the most likely behaviour pattern and bodily form.

Such an understanding of many extinct fossil forms or faunas shows that there has been a serial progression of life forms of increasing complexity. At different stages of the earth's history very similar



In the laboratory, Dr. Churcher fits a section of bone to horn-core to reconstruct a fossil bison skull

Preservative is brushed on 30,000-year-old bison horn



life forms have evolved from most unlike stocks to perform a natural function in the balance of nature. Such a function may be exemplified by the rhinoceros-form, named for living African and Eurasian mammals. These living forms are only the last in a series that includes other similarly proportioned and armed animals such as *Arsinotherium* (an early

Egyptian mammal) or *Triceratops* (a reptile from the Age of Reptiles), and there are many more. Thus the evidence of palaeontology adds to the knowledge of past life and to our understanding of the machinery of balance in the environment on the surface of the earth.

A fossil hunter's or palaeontologist's varied field experience often reads like a holiday. I have had field or museum experience in Europe, Africa, North and South America, and I hope to add Australia to my list this year. I have seen the Karoo and the Kalahari Desert, worked at the Transvaal Caves near Krügersdorp, Makapan's Cave near Potgietersrus in the Northern Transvaal, and prospected for fossils in the great shale beds of the eastern Cape Province.

During my university undergraduate and graduate years in South Africa, I was associated with the University of Natal in Pietermaritzburg and the Transvaal Museum in Pretoria. At the Transvaal Museum I did some preparation of specimens of the ape-men (*Australopithecus africanus* and *Paranthropus robustus*) that Dr. John T. Robinson was working on; in return I was able to work up the rock-rabbits or dassies (*Hyracoidea*) from the same deposits.

During this African period I visited sites in Kenya and Tanganyika, among them Olduvai Gorge. On one occasion, while walking along the bottom of the Gorge, some miles from the site of Dr. Leakey's famous finds of Nutcracker man (*Zinjanthropus*), I remember being asked how one finds fossils or old flint implements. I was explaining, and not very convincingly, that it helped to have a lot of practice in looking and in knowing what one might be looking for.

Still talking, I pointed my toe at a small piece of peculiarly surfaced stone lying half-buried in the sand and remarked, "This might be one side of a small projectile point. See how it is shaped." I bent down and picked it up, and—incredibly—it was just that. The incident merely indicates that practice, luck, and learning, in that order, usually produce specimens.

I have found fossils in places as far apart as Mar del Plata, Argentina; Medicine Hat, Alberta; and near Weymouth, England. None of these places is quite as exciting as Africa, where in some areas the wild fauna can still interfere with one's plans. Once our Land Rover was chased by two rhinoceros at the same time. Fortunately the vehicle held together without breaking an axle as we fled at about 40 mph over the open country.

Such occasions add zest to the more normal programme of recovery and recording of material. The records that we must keep are multifarious,

among them black-and-white and colour photographs or slides, and a field notebook full of measurements, comments and other observations. Each specimen is given a field number and all data pertaining to it is entered, even to its location within a band of sediment and its relationship to other fossils. All the data is necessary for a full interpretation back in the laboratory.

My field work in Canada has been mainly as an employee of the Geological Survey of Canada, Department of Mines and Technical Surveys. They needed a vertebrate palaeontologist to survey some of the geological localities from which bones had been obtained. During the past three summers I have visited about 25 sites and spent about five months in the field in Southern Alberta and Saskatchewan in the company of Dr. Archibald MacS. Stalker of the G.S.C. Together we have ascertained that about five sites are of interest to a vertebrate palaeontologist and to a geologist, and that a further five may well be important.

One area near Medicine Hat is exceptionally interesting to us and perhaps to anthropologists as well. This site comprises a buried valley in which the South Saskatchewan River has eroded a deep channel, producing bluffs of which 13 have yielded fossils from about five levels that date back 200,000–300,000 years.

The area is still being investigated, but already we know its series of bluffs and the superposed series of faunal levels lie beneath at least four Wisconsin glacial till deposits—the latest age of the glacial period. Previously, the lowest levels had been thought to have been as much as two or three million years old. Now we know that only the last glaciation affected the Medicine Hat area directly. This allows a wide area of Alberta to have been quite free of ice, even as far north as the Peace River area. Therefore Man may have entered North America prior to the Folsom or Llano fluted-point cultures of about 14,000 years ago.

Many of these interpretations have been made during the winters working in the laboratories of the University of Toronto Department of Zoology, at the ROM or with Dr. Stalker and his colleagues in the Geological Survey at Ottawa. The G.S.C. laboratories can get me radiocarbon dates; the ROM has both modern and fossil specimens that can be used as comparative materials on which to base the identification of my specimens. Also I

can consult geologists, botanists and other zoologists in Toronto and elsewhere. All these contacts enhance the reliability of suggestions and conclusions. This interchange of ideas is the basis of the whole mutually cooperative scientific fraternity.

In essence a palaeontologist is “neither fish, fowl, nor good red herring,” but parts of all three. He must be geologist enough to understand evidence of the forces that have caused the superficial and fossiliferous rocks to have formed. He must be detective enough to form his hypotheses from the most unsatisfactory samples or specimens. He must be a specialist in some major biological subject and attempt to understand the life and habits of the animal from which the fossil came, rather than use it solely as a clue to the age of the rocks. In short, like the jig-saw or cryptogrammic crossword puzzle addict, he must have both knowledge and patience.

Few places offer courses in palaeontology, and none at the undergraduate level. It is advisable to get a good grounding in zoology, botany or geology, and pick up the other subjects after the first degree. My personal experience includes a B.Sc. in botany and zoology, an Honours B.Sc. in zoology, a year of forestry, an M.Sc. in palaeontology, and a Ph.D. in Neomammalogy. All this, together with additional language, statistical and geological courses, provided the required “book-learning.” Travel, field work—both for palaeontological, archaeological and geological purposes—all have helped.

Where do I go from here? Well, as soon as I complete this article I leave for East Africa to work with Dr. Leakey. I shall study Miocene giraffes from Fort Ternan near Lake Victoria, and in addition learn much more about many aspects of the age of mammals as shown by the fossils Dr. Leakey has recovered from Kenya and Tanganyika.

After three months or so, I expect to visit South Africa, where Dr. Brain of the Transvaal Museum has asked me to work up some more dassies, obtained since I left in 1953, and to examine his giraffe material. I also hope to go into the Karoo to collect some of the Permian Karoo reptiles and bring them back to Toronto for teaching and perhaps exhibition purposes. After that I may return via Australia, where I should like to visit their major academic institutions, and learn about the age of the marsupials at first hand.

It will be a strenuous eight months, and it would not be possible without support from the National Research Council, the University of Toronto, and my wife. Fortunately all three think it is worthwhile, although only the last has insisted on personally seeing that I do what I have said I will do!

Compare the modern bison skull with section of fossil bison skull being assembled by Dr. Churcher. Both skulls were found in the Medicine Hat area



Portrait of a Palaeontologist is drawn from life by Charles Stephen (Rufus) Churcher. Born at Aldershot, England, in 1928, Dr. Churcher earned degrees from the University of Natal, the University of Toronto, and Oxford. He joined the ROM in 1957 as Research Associate and the University of Toronto as Assistant Professor, Department of Zoology. While at the University of Natal he was associated with the Transvaal Museum, and joined expeditions to the Kalahari and to Makapans Gut as well as making his own expeditions to various parts of East Africa. In Canada, he has dug at Rainy River, Fort Albany and along the South Saskatchewan River.

Not for my tusks of Ivory.
But for my thicker skin! — and then
I'll solve my mammoth problem.



THE FLOWING BOWL

*by Gerard Brett,
former Research Curator,
European Department*



For at least 300 years glass containers have dominated the drinking scene in England. But before the introduction of glass, many other materials, from silver gilt to earthenware, were popular for drink containers. The earthenware wine containers in the ROM collection which are discussed in this article illustrate drinking customs different from those of today.

Perhaps the most important consideration is for what liquids the containers were used. Cider (fermented apple juice), perry (fermented pear juice), and mead (a mixture of fermented honey and water) may be disregarded since no special containers meant for them are known today. The drinks that do concern us are wine, ale and beer. We do not know when wine first was imported but ale was brewed in English homes from time immemorial. Beer began to supplement ale when hops were imported in the 15th century.

On formal occasions, in mediaeval times, the drinking vessels stood on the Cup Board against

one wall of the Hall under the care of the Cup Bearer. When one of the diners wished to drink, he called to the Cup Bearer for a cup of wine, which was handed to him and handed back after use for rinsing and replacing on the Cup Board. It seems from the 12th-century wine-cellar scene (fig. 1) that earthenware jugs were used to hold the wine from which the drinking vessels were filled, and doubtless for other similar purposes.¹ There are no English examples known of the vessel used for rinsing the drinking cup, but a number of German manuscripts and pictures show a jug standing inside a basin (both of them perhaps of pewter) on the floor underneath the Cup Board, which may have been used for this purpose.² For more private dinners, when the services of the Cup Bearer were not required, matters were differently arranged and it was usual to have small vessels that stood on the table and contained wine or another liquid. Two of these are known and date from the 14th century. We see here a jug with a rather long neck and a



Fig. 1
12th century wine cellar

Fig. 9
Hogshead of Sussex earthenware.
English, 19th century. Acc. 925.13.98



Fig. 2
Earthenware jug with dark green glaze.
English, about 1300. Acc. 929.16.7

baluster-shaped body: it has a pouring handle and a very heavy foot (fig. 2).³ There are at least two in existence, one in the ROM, almost identical in every way. There is a gap of more than two hundred years, when we find that the wine vessels were of two types, one for slinging round the shoulder and carrying either on horseback or on foot, the other for standing on a table.

These two types deserve separate attention. Best known of the first is the "pilgrim bottle," a type known throughout Europe. "Pilgrim bottles" must have been put to a great many uses of which the carriage of wine was only one. There are two "pilgrim bottles" in the Museum, with round bodies (fig. 3). In a later type dating perhaps from the 16th century, the form of the "pilgrim bottle" has been lost. Now the characteristics are a globular

body, a low foot, and a short neck. Lugs for fastening it with a thong or rope are found on the upper surface (fig. 4). The latest of this group of English vessels is the type with a bag-shaped body and a rather long neck, with a small foot: the carrying lugs are often in the form of lion's head masks (fig. 5). These were often described as French, but since all the surviving examples were found in England, and since the colouring agrees exactly with the description of "marbled ware" in Dr. Plot's *Natural History of Staffordshire*, 1686, the allegation of a French origin is not convincing.

The second type was made to stand on a flat surface, and here again an example from western Europe is much the best known. This is a vessel with an upright and rather bulging body which varies in size and shape, and a narrow neck. At the base of the neck is a stamped or moulded face of a bearded elderly man. It is supposed originally to have been a caricature of one of the two leaders of the Counter Reformation in 17th-century Europe, either the Italian Cardinal Bellarmine (from whom the vessel takes its name), or the Spanish Duke of Alba. Examples have been found in London excavations, but it has never been confirmed that they were made there. English vessels are smaller and simpler: most have a globular body and a short neck (fig. 6). Similar to these are the latest vessels in the group, the English Delftware wine bottles made, it is believed, at Lambeth (fig. 7). They are thought to have been wine merchants' sample bottles since each has, painted in blue on the tin glaze, the name of the wine the bottle contained and the date of the vintage. The dates stretch from 1639 to 1671.

There is a similarity between earthenware vessels of the 16th and 17th centuries which we have just described, and the earliest surviving wine bottles of glass. These begin to be preserved about the time of the Restoration, and it seems that earthenware dropped rapidly out of fashion soon after that date, and is not heard of again in use for ordinary drinking vessels. Its use did continue at a later date, as the vessels to which we turn now show clearly, and these were all, so far as we know, intended for wine or a mixture of wine and other drinks. This is certainly true of the punch bowl.

Among the vessels in the ROM is a posset pot which can be dated to about 1700, and probably

Fig. 3
Pilgrim bottle, earthenware with dark green glaze over top.
English, 16th century. Acc. 926.29.1

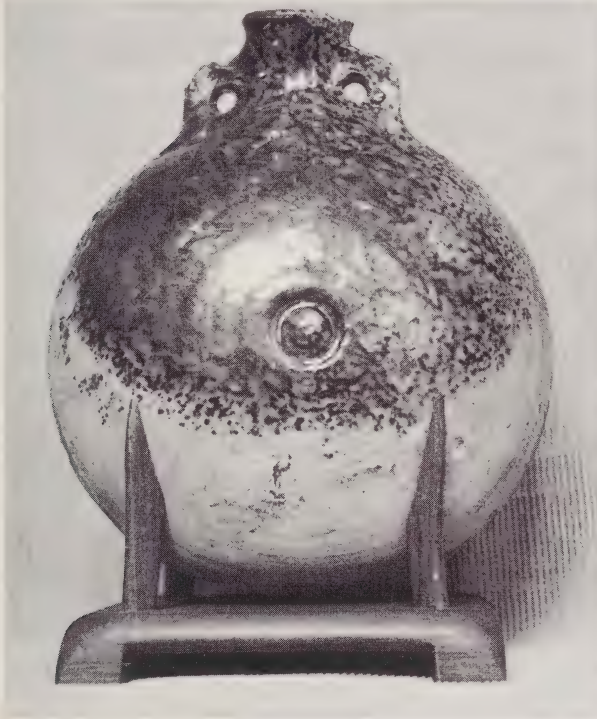


Fig. 4
Earthenware bottle with traces of green glaze.
English, 16th century. Acc. 928.17.20



Fig. 5
Jug of "marbled ware" glaze in streaks of red and white.
English, 17th century. Acc. 935.16.5

Fig. 6
Upper part of bottle shows light green glaze.
English, 16th century. Acc. 907.5.4

Fig. 7
"Sack" and the date 1652 decorate bottle which features
all-over tin enamel glaze. Acc. 922.19.14

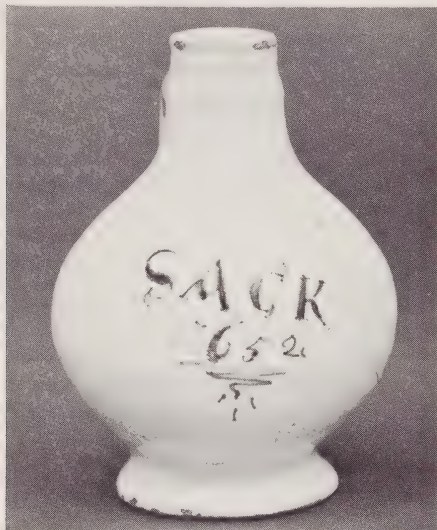


Fig. 8
Posset pot painted with chinoiserie design.
Gift of Mrs. Edgar J. Stone. Acc. 966.265.3



comes from Bristol (fig. 8). A "posset" is described in the Oxford English Dictionary as "A drink composed of hot milk curdled with ale, wine, or other liquor, often with sugar, spices, or other ingredients, formerly much used as a delicacy and as a remedy for colds and other infections," and the shape and construction of the pot itself are suitable for this. The tube from which the liquid is sucked is at once explained by the words of the description.

There are two essential points about the posset pot. First, as a container for hot liquids, it should be covered: there is always a cover on complete vessels of the kind. The second is that it was intended for one person to use, and therefore its size was limited. In a certain sense it is the antithesis of the punch bowl, one of the vessels designed for a large number of convivial people.

Two of these, the Hogshead and the punch bowl, are in the Museum. Hogshead was originally a proper name for a barrel that contained 63 gallons, the later equivalent of 52 Imperial gallons of liquid. This meaning seems to have continued with no suggestion of any other, until about the close of the 18th century. At that time the habit grew of regarding the word "Hogshead," rather than the original character of the container and the end of this process was a model of a hog's head (fig. 9). This is in the typical red Sussex Ware, and has a round and barrel-shaped body with four short legs protruding below it: the end is flat so that it can stand upright. The head is held on with wooden pegs and by removing it when the container is tilted upright it becomes clear that the cap is a drinking cup, so that it could serve a considerable number of people using either the hog's head or independent drinking cups. Vessels of this kind seem all to belong to the late 18th or early 19th centuries.

A vessel obviously made for a number of convivial people is the punch bowl. The Museum example, perhaps from Liverpool, is very large—its top diameter is 21¼"—so that we may assume it was intended for a large company; and may take it from the inscription at the bottom of the bowl "To The Free and Eassey Society" that they were quite a large society at the time the bowl was made, probably about 1767 (fig. 10).

The qualities of the punch bowl connect it loosely with two other vessels dealt with here, both of which may be supposed to have been appreciated,

or not appreciated, by more than one person. The first of these is a curious shaped vessel which nowadays has the name of a “fuddling cup.” This is a name which can be traced back only as far as a bill dated 1887. Beyond that point we are in the dark, and although it seems certain that the vessel was occasionally described in writing, we are unsure about the word used. The “fuddling cup” has a number of small cups—the number varies from three to seven—connected to each other by a tube which the drinker will not see, towards the bottom, in such a way that it is quite impossible to empty one of the cups without emptying all of them. It represents, in fact, a rather simple form of humour, and its unsophisticated character explains, or is explained by, the fact that all the remaining examples seem to belong to the 17th or 18th centuries. They are all of earthenware, either lead-glazed or tin enamelled, and in many cases made at Bristol. It seems likely that the Museum example belongs to the late 17th century, but we cannot be sure where it was made. It is of lead-glazed earthenware, coloured a plain yellow (fig. 11).

The last vessel to concern us is in a sense the

successor to the “fuddling cup,” and is the aptly named “puzzle jug.” The Museum example is of 18th century date, but of unknown origin, and is decorated on the outside with an elaborate design in “scratch blue” (fig. 12). The essence of the puzzle is that the neck of the jug has openings which make it impossible to pour from without spilling the contents, and the solution to it is in the tubes which are sealed inside the jug and which make its use possible. Even though it is of rather more refined type than the “fuddling cup” it still represents a rather brutal form of horse-play and as the 18th century advanced it went out of regular use, both in England and in the other European countries.

It would appear that while in the 17th century glass became the preferred container for drinks, earthenware long remained the popular container for such cossetting beverages as the posset pot and for more convivial drinks—the Hogshead, punch bowl and fuddling cup. Indeed, the puzzle jug adds a new dimension of meaning to that famous drinking chorus,

Landlord, fill the flowing bowl
'Til it doth run over!

Anon.

Fig. 10
Punch bowl painted in blue with tin enamel glaze. English, probably Liverpool about 1765. Acc. 922.19.17



Fig. 11
Fuddling cup with yellowish glaze. English, 17th century.
Gift of G. W. Nickels. Acc. 912.27



NOTES

1. *British Museum M.S. Cotton Nero C. iv*, reproduced in *Wright's History of Domestic Manners*, London, 1861, p. 85.
2. *Schiedlausky, Essen und Trinken, Nurnberg 1956*, plate 40, fig. on p. 13, 49.
3. A second, similar example is in the *Glaisher Collection, Fitzwilliam Museum, Cambridge*, reproduced in *Rackham, Catalogue of the Glaisher Collection, 1935, Vol. 2, plate 1, D*.

Fig. 12
Puzzle jug of salt glaze stoneware with
"scratch blue" ornament.
English, 18th century. Acc. 934.7.14



Gerard Brett, who wrote *The Flowing Bowl*, recently retired as Research Curator of the European Department of the ROM. He was born in Northern Ireland in 1915, received his M.A. from Oxford in 1936 and then joined the Walker Trust of the University of St. Andrew's expedition to Byzantium, where he spent the summers of 1936 and 1937. From 1938 to 1947 he was Assistant Keeper of the Textile Department at the Victoria and Albert Museum in London—with time off for war service in the Royal Ulster Rifles and later the Commandos. He took part in the second raid on the Lofoten Islands and was awarded the Military Cross for his part in the raid on St. Nazaire (1942) where he was captured by the Germans. He came to Canada in 1948 as Director of the Royal Ontario Museum of Archaeology. In 1955, for reasons of health, he resigned to become Curator of the European Department.

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